

Fig. 1

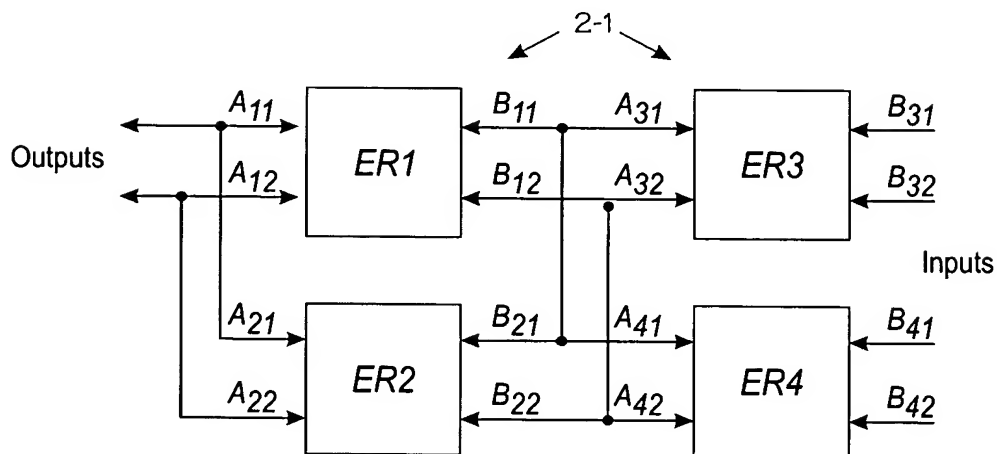


Fig. 2

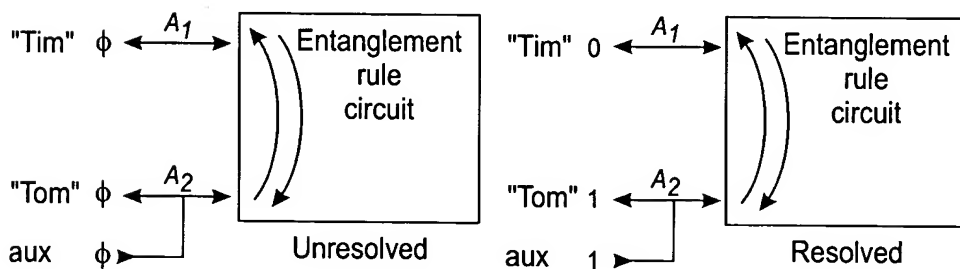


Fig. 3A

ϕ = Indefinite

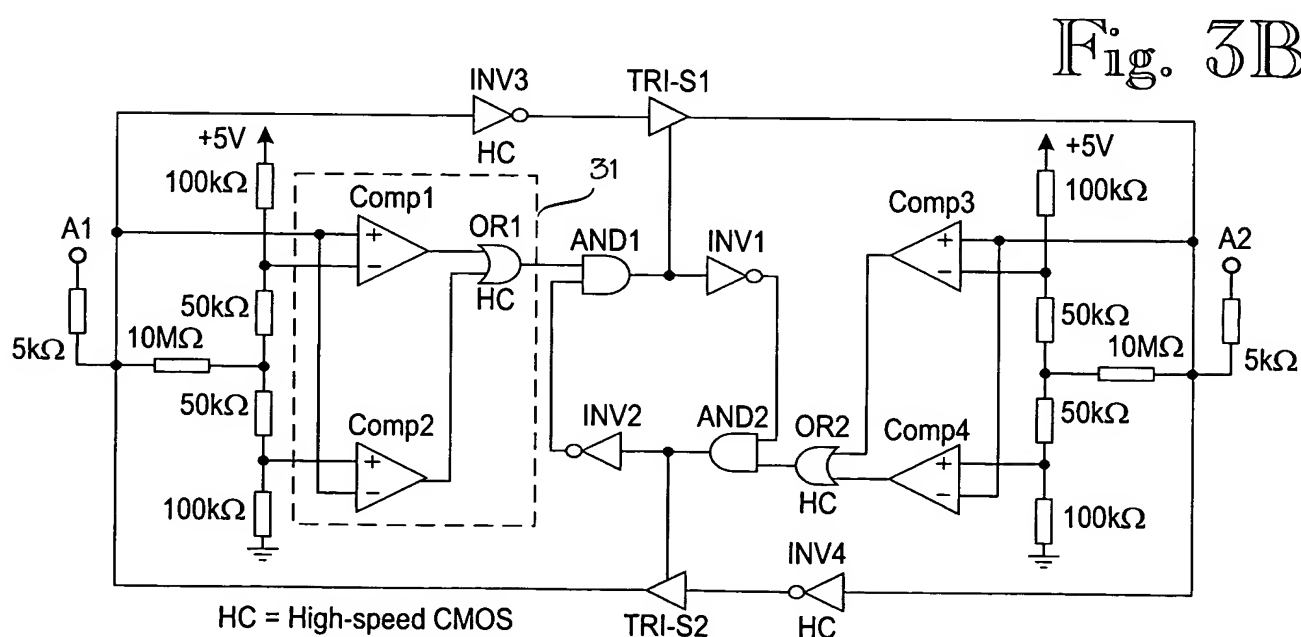
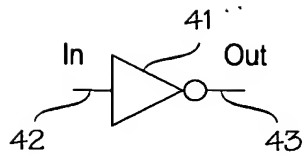
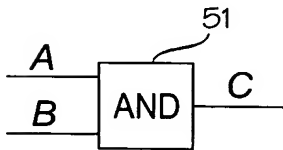


Fig. 3B



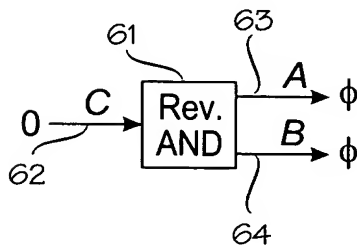
In	Out
0	1
1	0

Fig. 4



A	B	C
0	0	0
0	1	0
1	0	0
1	1	1

Fig. 5

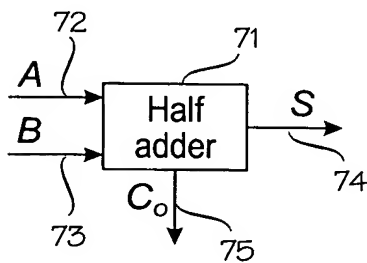


C	A	B
0	φ	φ
1	1	1

Fig. 6

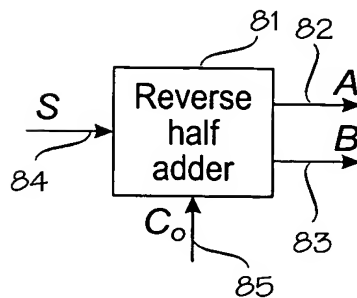
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$A=1 \rightarrow B=0$
 $B=1 \rightarrow A=0$



A	B	S	C _o
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

Fig. 7



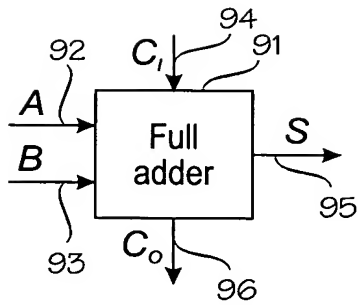
S	C _o	A	B
0	0	0	0
1	0	0	1
1	0	1	0
0	1	1	1

Fig. 8

88 { $S=0 \text{ \& } C_o=0 \rightarrow A=B=0$
 $S=0 \text{ \& } C_o=1 \rightarrow A=B=1$

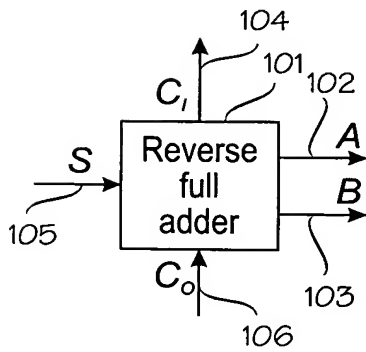
89 { if $S=1 \text{ \& } C_o=0$ then:
 if $A=1$ then $B=0$
 if $B=1$ then $A=0$

Fig. 9



A	B	C _i	S	C _o
0	0	0	0	0
0	1	0	1	0
1	0	0	1	0
1	1	0	0	1
0	0	1	1	0
0	1	1	0	1
1	0	1	0	1
1	1	1	1	1

Fig. 10



S	C _o	A	B	C _i
0	0	0	0	0
1	0	0	1	0
1	0	1	0	0
1	0	0	0	1
0	1	1	1	0
0	1	0	1	1
0	1	1	0	1
1	1	1	1	1

$$108 \left\{ \begin{array}{l} S=0 \text{ \& } C_o=0 \rightarrow A=B=C_i=0 \\ S=1 \text{ \& } C_o=1 \rightarrow A=B=C_i=1 \end{array} \right.$$

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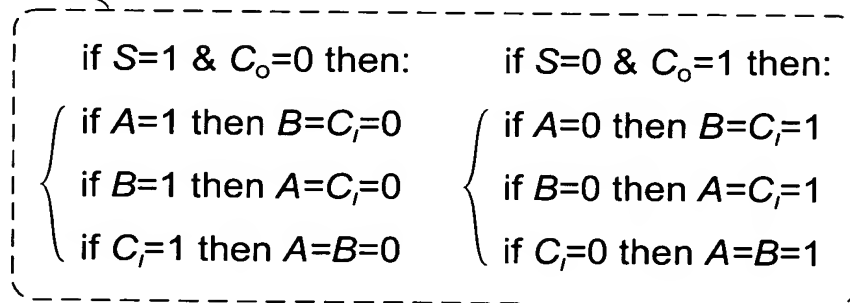
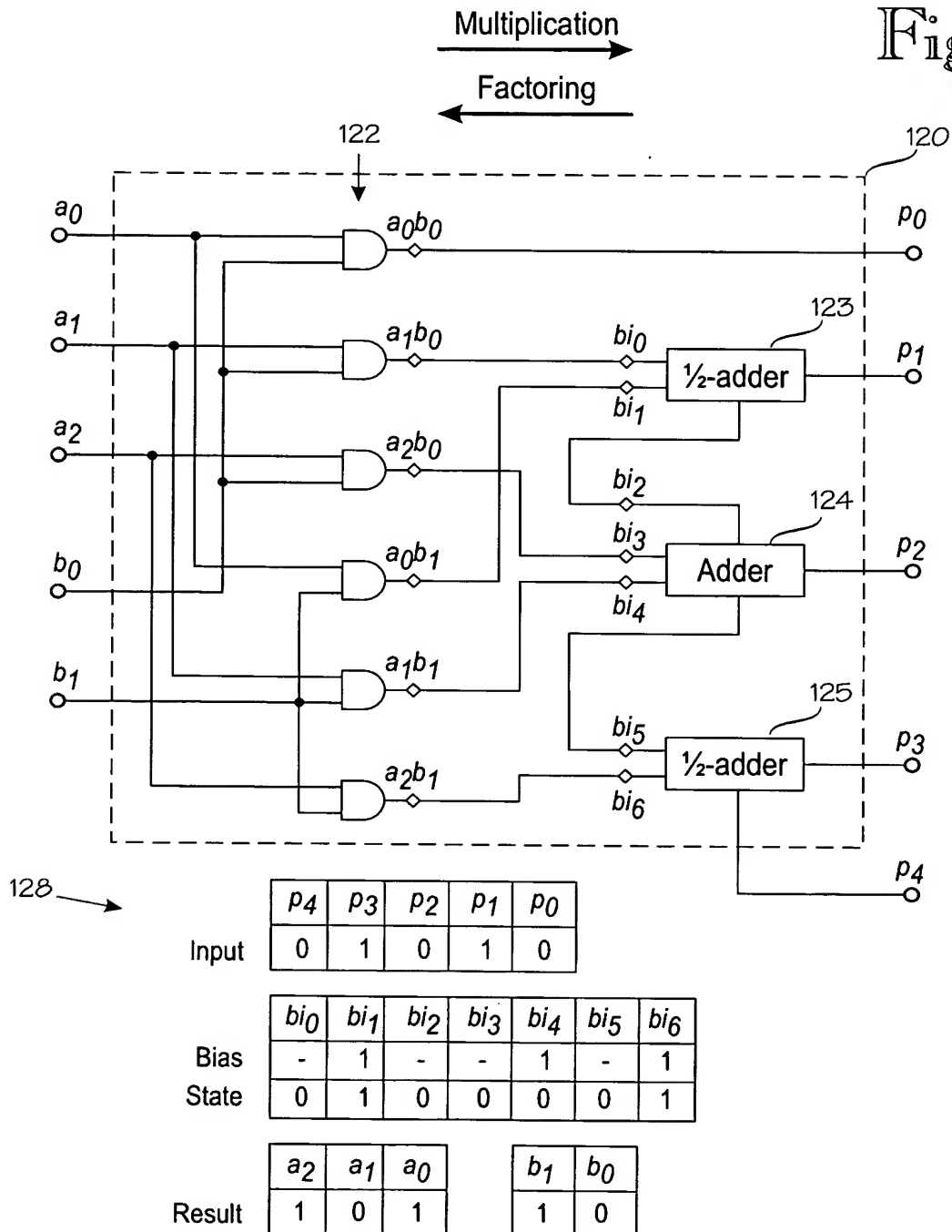


Fig. 11

$$\begin{array}{r}
 \begin{array}{c} x \\ + \\ + \end{array}
 \begin{array}{r}
 \begin{array}{c} a_2 \quad a_1 \quad a_0 \\ b_1 \quad b_0 \end{array} \\
 \hline
 a_2b_0 \quad a_1b_0 \quad a_0b_0 \\
 a_2b_1 \quad a_1b_1 \quad a_0b_1 \\
 \hline
 c_2 \quad c_1 \quad c_0 \\
 p_4 \quad p_3 \quad p_2 \quad p_1 \quad p_0
 \end{array}
 \end{array}$$

Fig. 12



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no	p4	p3	p2	p1	p0	a2	a1	a0	b1	b0	Result	Comment
0	0	0	0	0	0	0	0	0	0	0	0x0	Ok
1	0	0	0	0	1	0	0	1	0	1	1x1	Ok
2	0	0	0	1	0	0	0	1	1	0	1x2	Ok
3	0	0	0	1	1	0	0	1	1	1	1x3	Ok
4	0	0	1	0	0	0	1	0	1	0	2x2	Ok
5	0	0	1	0	1	0	1	1	1	1	-	False
6	0	0	1	1	0	0	1	1	1	0	3x2	Ok
7	0	0	1	1	1	0	1	1	1	1	-	False
8	0	1	0	0	0	1	0	0	1	0	4x2	Ok
9	0	1	0	0	1	1	0	1	1	1	-	False
10	0	1	0	1	0	1	0	1	1	0	5x2	Ok
11	0	1	0	1	1	1	0	1	1	1	-	Overflow
12	0	1	1	0	0	1	1	0	1	0	6x2	Ok
13	0	1	1	0	1	1	0	1	1	1	-	Overflow
14	0	1	1	1	0	1	1	1	1	0	7x2	Ok
15	0	1	1	1	1	1	1	1	1	0	-	False
16	1	0	0	0	0	0	1	1	1	0	-	Overflow
17	1	0	0	0	1	1	1	1	0	1	-	Overflow
18	1	0	0	1	0	1	1	1	0	1	-	False
19	1	0	0	1	1	1	1	1	1	1	-	Overflow
20	1	0	1	0	0	1	1	1	1	1	-	Overflow
21	1	0	1	0	1	1	1	1	1	1	7x3	Ok

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Fig. 14

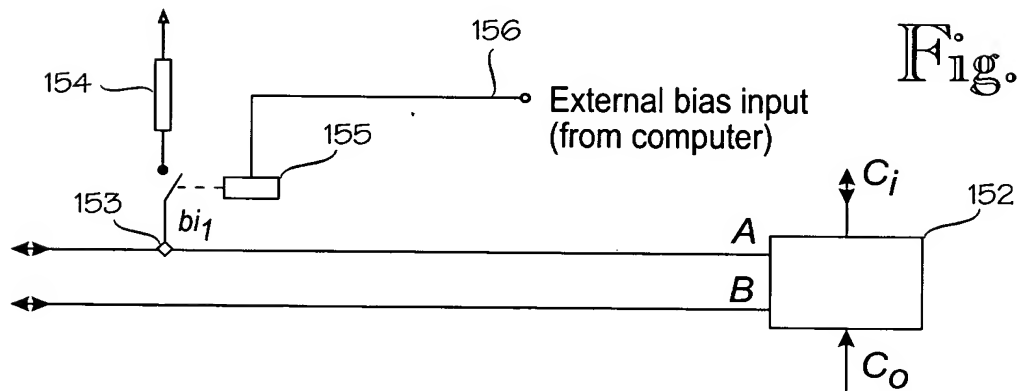
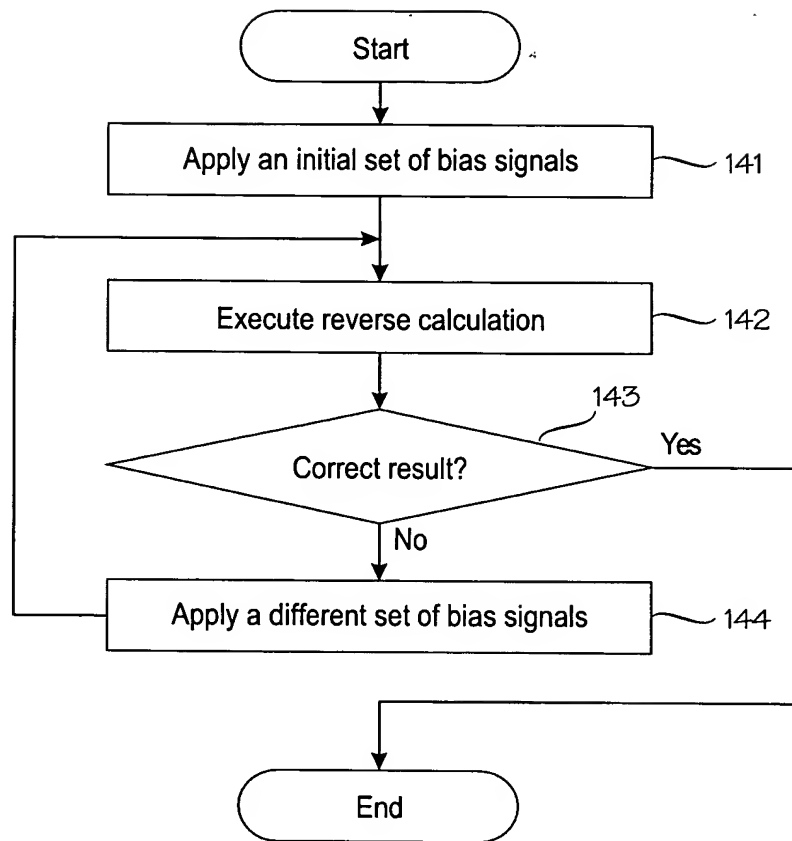


Fig. 15

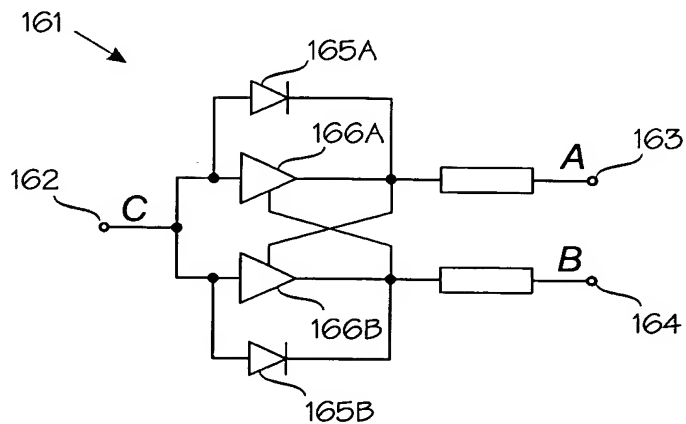


Fig. 16

